

AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

In the Claims

Claim 1 (currently amended): A semiconductor light emitting device comprising.

a substrate;

an n-type layer provided on the substrate and made of a nitride semiconductor material;

a multiple quantum well structure active layer including a plurality of well layers each made of $\text{In}_x\text{Ga}_{(1-x-y)}\text{Al}_y\text{N}$ ($0 \leq x, 0 \leq y, x+y < 1$) and a plurality of barrier layers each made of $\text{In}_2\text{Ga}_{(1-s-t)}\text{Al}_t\text{N}$ ($0 \leq s, 0 \leq t, s+t < 1$), the multiple quantum well structure active layer being provided on the n-type layer, and

A¹ a p-type layer provided on the multiple quantum well structure active layer and made of a nitride semiconductor material,

wherein the p-type layer contains hydrogen, and the hydrogen concentration of the p-type layer is greater than or equal to about 1×10^{16} atoms/cm³ and less than or equal to about 1×10^{19} atoms/cm³, and

the p-type layer contains Mg and the Mg concentration of the p-type layer is greater than or equal to about 4×10^{19} atoms/cm³ and less than or equal to about 1×10^{21} atoms/cm³.

Claim 2 (cancelled)

Claim 3 (original): A semiconductor light emitting device according to claim 1, further comprising a p-type electrode for applying a voltage via the p-type layer to the multiple quantum

well structure active layer, wherein the p-type electrode contains atoms selected from the group consisting of Pd, Sc, Y, La, Ce, Pr, Nd, Sm, Eu, Tb, Ti, Zr, Hf, V, Nb and Ta.

Claim 4 (cancelled)

Claim 5 (original): A semiconductor light emitting device according to claim 1, the hydrogen concentration of the n-type layer is less than or equal to 1×10^{17} atoms/cm³.

Claim 6 (currently amended): A semiconductor light emitting device according to ~~claim 4~~ claim 3, the hydrogen concentration of the n-type layer is less than or equal to 1×10^{17} atoms/cm³.

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Claim 7 (original): A semiconductor light emitting device according to claim 1, further comprising a layer including Al, wherein the p-type layer is provided, via the layer including Al, on the multiple quantum well structure active layer.

Claim 8 (original): A semiconductor light emitting device according to claim 7, the layer including Al has a thickness of about 5 nm or more.

[Claims 9-10 (withdrawn)]

Claim 11 (new): A semiconductor light emitting device comprising: a substrate;

an n-type layer provided on the substrate and made of a nitride semiconductor material;

a multiple quantum well structure active layer including a plurality of well layers each made of $\text{In}_x\text{Ga}_{(1-x-y)}\text{Al}_y\text{N}$ ($0 \leq x, 0 \leq y, x+y < 1$) and a plurality of barrier layers each made of $\text{In}_2\text{Ga}_{(1-s-t)}\text{Al}_t\text{N}$ ($0 \leq s, 0 \leq t, s+t < 1$), the multiple quantum well structure active layer being provided on the n-type layer; and

a p-type layer provided on the multiple quantum well structure active layer and made of a nitride semiconductor material,

wherein the p-type layer contains hydrogen, and the hydrogen concentration of the p-type layer is greater than or equal to about 1×10^{16} atoms/cm³ and less than or equal to about 1×10^{19} atoms/cm³, and

the n-type layer contains hydrogen, and the hydrogen concentration of the n-type layer is less than or equal to 1×10^{17} atoms/cm³.

Claim 12 (new): A semiconductor light emitting device according to claim 11, further comprising a p-type electrode for applying a voltage via the p-type layer to the multiple quantum well structure active layer, wherein the p-type electrode contains atoms selected from the group consisting of Pd, Sc, Y, La, Ce, Pr, Nd, Sm, Bu, Tb, Ti, Zr, Hf, V, Nb and Ta.

Claim 13 (new): A semiconductor light emitting device according to claim 11, further comprising a layer including Al, wherein the p-type layer is provided, via the layer including Al, on the multiple quantum well structure active layer.

Claim 14 (new): A semiconductor light emitting device according to claim 13, the layer including Al has a thickness of about 5 nm or more.

Claim 15 (new): A semiconductor light emitting device according to claim 11, wherein the p-type layer contains Mg, and the Mg concentration of the p-type layer is greater than or equal to about 4×10^{19} atoms/cm³ and less than or equal to about 1×10^{21} atoms/cm³.

Claim 16 (new): A semiconductor light emitting device comprising: a substrate;
an n-type layer provided on the substrate and made of a nitride semiconductor material;

a multiple quantum well structure active layer including a plurality of well layers each made of $\text{In}_x\text{Ga}_{(1-x-y)}\text{Al}_y\text{N}$ ($0 \leq x, 0 \leq y, x+y < 1$) and a plurality of barrier layers each made of $\text{In}_2\text{Ga}_{(1-s-t)}\text{Al}_t\text{N}$ ($0 \leq s, 0 \leq t, s+t < 1$), the multiple quantum well structure active layer being provided on the n-type layer, and

a p-type layer provided on the multiple quantum well structure active layer and made of a nitride semiconductor material,

wherein the p-type layer contains hydrogen, and the hydrogen concentration of the p-type layer is greater than or equal to about 1×10^{16} atoms/cm³ and less than or equal to about 1×10^{19} atoms/cm³, and

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further comprising a p-type electrode for applying a voltage via the p-type layer to the multiple quantum well structure active layer, wherein the p-type electrode contains a combination of Au and Pd.

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Claim 17 (new): A semiconductor light emitting device according to claim 16, wherein the p-type layer contains Mg, and the Mg concentration of the p-type layer is greater than or equal to about 4×10^{19} atoms/cm³ and less than or equal to about 1×10^{21} atoms/cm³.

Claim 18 (new): A semiconductor light emitting device according to claim 16, wherein the n-type layer contains hydrogen and the hydrogen concentration of the n-type layer is less than or equal to 1×10^{17} atoms/cm³.
